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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,835	02/08/2006	Jan Boris Rudkowski	LE/sc030100us	2086
30/996 7590 02/20/2009 ROBERT W. BECKER & ASSOCIATES 707 HIGHWAY 333 SUITE B TIJERAS, NM 87059-7507				
EXAMINER				
CHANG, HANWAY				
ART UNIT		PAPER NUMBER		
4183				
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02/20/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/567,835

**Applicant(s)**

RUDKOWSKI ET AL.

**Examiner**

Hanway Chang

**Art Unit**

4183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/22/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/8/2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 5/22/2006

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hillman (US Pat 4,336,223, hereinafter Hillman) in view of Prieve et al. (US Pat 6269680, hereinafter Prieve).

Regarding claim 9, Fig. 4 of Hillman discloses a device for the UV treatment of fluids comprising a plurality of cylindrical UV emitters (44, 45, 46, and 47) (see col. 4, lines 63-68) that are arranged in groups in the flow channel, wherein longitudinal axes of the UV emitters (44-47) are disposed substantially parallel to one another such that the UV emitters (44-47) of a given group are disposed in a plane. Fig. 2 of Hillman discloses at least one elongated sensor arrangement (13) adapted to monitor an operating state of the UV emitters (44-47, which are enclosed by tubes 14-17 respectively), wherein the at least one elongated sensor arrangement (13) is spaced from and parallel to one of the groups of the UV emitters (44-47), wherein the at least one elongated sensor arrangement (13) extends substantially transverse to the longitudinal axes of the UV emitters (44-47) of the adjacent group, and wherein the at least one elongated sensor arrangement (13) is provided with a separate UV sensor (63) for each UV emitter of that group (see col. 6, lines 24-26). It should be noted that

the emitters are to be grouped by the direction of the flow of fluids (shown by the arrows within the tubes of Fig. 4), wherein the lower two tubes make one group, and the second group are the upper two tubes. It should be further noted that the elongated sensor arrangement (13) lies in a plane which is parallel to the plane the row of emitters resides in, while still being transverse to the longitudinal axes of each individual emitter. It should be further noted that this interpretation is consistent with the applicants disclosure (see figure 1). Fig. 8 of Hillman discloses at least one unit connected with the at least one elongated sensor arrangement (13) and adapted to control and/or regulate the UV emitters (44-47) (see col. 7, lines 37-59).

A difference between Hillman and the claimed invention is that Hillman does not explicitly disclose the UV emitters are low-pressure mercury UV emitters. However, Hillman does disclose that the UV emitters are most effective at destroying micro-organisms when the emitters radiate at 2,537 angstroms, which is 253.7 nanometers. Prieve teaches that low pressure mercury lamps emit at 253.7 nanometers (see col. 13, lines 44-50). In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Hillman by having low pressure mercury lamps to emit UV radiation at 254 nanometers for the purpose of using a well known radiation source.

Regarding claim 10, a further difference between Hillman and the claimed invention is the at least one elongated sensor arrangement (13) is disposed in a quartz tube. However, it is well known in the art that quartz is transparent to UV radiation (example: see col. 4, lines 50-55 of Hillman). It would have been obvious at the time of

invention to a person of ordinary skill in the art to modify Hillman by disposing the elongated sensor arrangement in a quartz tube for the purpose of enabling the UV sensors (63) to detect the radiation from the UV emitters (44-47).

Regarding claim 11, Fig. 4 of Hillman discloses the UV emitters (44-47) are disposed transverse to a direction of flow of the fluids in the flow channel. It should be noted that the direction of flow of the fluids is shown by the arrows within the tubes. It should further be noted that although most of the path of the fluid within the tubes is substantially parallel to the tubes, the net result is of a transverse direction from inlet (25) to outlet (25').

Regarding claim 12, Fig. 4 of Hillman discloses the at least one elongated sensor arrangement (13) is disposed transverse to a direction of flow of the fluids in the flow channel. It should be noted that the direction of flow of the fluids is shown by the arrows within the tubes. It should further be noted that although the net result of the path of the fluid along the elongated sensor arrangement (13) is parallel from inlet (25) to outlet (25'), a majority of the direction of flow is transverse to the elongated sensor arrangement (13) so that the fluids may flow parallel to the tubes.

Regarding claim 13, Fig. 5 of Hillman discloses the at least one elongated sensor arrangement (13) is provided with a support plate that carries the UV sensors (63) (see col. 6, lines 10-36).

Regarding claim 15, Fig. 8 of Hillman discloses the circuitry of the device where each of the UV sensors (63) is provided with a current/voltage transformer (AC power) and a digital module (79) (see col. 7, lines 60-62). It should be noted that a

current/voltage transformer is inherently present in order to power the sensor to detect the UV radiation.

Regarding claim 16, Fig. 2 and Fig. 8 of Hillman discloses at least one guide sensor (65) (see col. 6, lines 37-40) is disposed externally of the at least one elongated sensor arrangement (13), and wherein the at least one guide sensor detects UV radiation emitted by the UV emitters (44-47), relative to which radiation individual ones of the UV sensors (63) are adapted to be calibrated (see col. 7, lines 48-59).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hillman in view of Prieve as applied to claim 9 above, and further in view of Ifill et al. (US Pat 5,019,256, hereinafter Ifill).

Regarding claim 14, a further difference between Hillman and the claimed invention is the at least one elongated arrangement is disposed between two groups of UV emitters. However, in the same field of endeavor, Fig. 1 of Ifill discloses a rack assembly of UV emitters to treat water. It would have been obvious to an ordinary artisan at the time of invention to modify the invention of Hillman by having multiple rows of emitters for the purpose of increasing the amount of water being treated at one time. Furthermore, it would have been obvious at the time of invention to a person of ordinary skill in the art to have the elongated sensor arrangement disposed between two groups of the UV emitters, wherein the support plate carries the UV sensors (63) on two oppositely facing flat sides thereof, and wherein the UV sensors of a given flat side

of the support plate face a respective one of the groups of UV emitters for the purpose of decreasing the number of essential parts, thereby reducing cost.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanway Chang whose telephone number is (571)270-5766. The examiner can normally be reached on Monday to Thursday 7:30 AM till 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Landau can be reached on (571)272-1731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C. Landau/  
Supervisory Patent Examiner, Art  
Unit 4183

Hanway Chang  
February 13, 2009  
/H. C./  
Examiner, Art Unit 4183